

SAFETY OVER SPECTRUM: A PLAN FOR FIRST RESPONDER COMMUNICATIONS

A New Threat

In the post-September 11th world, threats to security and public safety in American communities are great. These dangerous times have highlighted the urgent need for state-of-the-art technologies, none more critical than reliable communications systems, to be readily available to our nation's first responders. Today, and unfortunately evident on September 11th, the communications systems of public safety departments are not interoperable. It is difficult, if not impossible, for different departments from different (or sometimes the same) jurisdictions to communicate because their systems and equipment cannot interact. Resolution of this crisis must be swift, or the danger to our first responders and all Americans will continue to skyrocket.

Interoperable communications systems could have saved lives on September 11th. As emergency personnel entered the World Trade Center towers, communications between police, fire, and rescue units were not coordinated. When it became evident that the towers would collapse, the evacuation order reached police radios, but not fire and rescue systems.¹

According to a report from the U.S. General Accounting Office, "The fundamental barrier to successfully addressing these [interoperability] challenges has been the lack of effective, collaborative, interdisciplinary and intergovernmental planning. No one first responder group or governmental agency can successfully 'fix' the interoperability problems that face our nation. It will require the partnership, leadership, and coordinated planning of everyone involved."²

As urgent and complicated as this problem is, the situation is exacerbated by the actions of Nextel Communications. Guised as an effort to help public safety departments eliminate interference problems in their communications systems, Nextel is waging a multi-million dollar campaign which is diverting attention and possible resources away from the real issue of communications interoperability.

Currently, public safety communications systems and Nextel's wireless services operate in the same bands of spectrum. This overlap causes public safety radios to encounter "dead spots" near Nextel cellular towers, rendering the radios useless to emergency personnel. To address this problem, which Nextel has the legal responsibility to fix³, the company proposed the so-called "Consensus Plan" to move its operations out of the radio frequencies in the 800 MHz band used by public safety departments. Nextel claims its departure from this spectrum will help eliminate interference, by allowing the communications systems of first responders to operate on contiguous frequencies. In exchange for moving from this frequency, Nextel requests that it be

¹ State Government News, The Council of State Governments, May 2003.

² Statement of William O. Jenkins, Jr., Director of Homeland Security and Justice Issues, before the House Subcommittee on the Government Reform Committee, November 6, 2003 available at <http://www.gao.gov/new.items/d04231t.pdf>.

³ See Section 90.173 (b) of the FCC's rules (47 C.F.R. Part 90.173b) and Section 90.403(e) of the FCC's rules (47 C.F.R. Part 90.403e).

granted replacement spectrum in a different frequency (1.9 GHz). Such a grant would allow Nextel to reap the benefits of better quality spectrum and expand its wireless services, while ignoring the federal requirement that the Federal Communications Commission (FCC) auction off spectrum for fair market value. The standard auction value of the spectrum Nextel is seeking could net American taxpayers over \$5 billion dollars by one estimate.⁴

Nextel's proposal ignores the important interoperability issue, sacrificing the security of American communities and first responders. Many entities, with explicit knowledge of the needs of public safety departments, are working to create communications systems that are interoperable with those of other public safety departments from federal, state, and local jurisdictions. Rather than giving away spectrum, as Nextel requests, resources should be devoted to speed the transition to an interference-free, interoperable, communications system for the nation's public safety agencies.

In this report, the First Response Coalition join together to present an alternative to Nextel's shortsighted plan, one that puts the needs of America's public safety personnel first and addresses the critical issue of interoperability. Nextel's ill-advised plan places first responders at risk and could threaten the security of all Americans if the communications services used by public safety are not operating at the highest standards.

Interoperability: The Real Problem Nextel Forgot

Of critical importance, Nextel's proposal to move public safety agencies to new frequencies and upgrade their equipment in the existing system does not solve the problem of interoperability between public safety agencies. Nextel's concept only seeks to reduce the limited amount of interference it causes to public safety agencies. **The First Response Coalition believes interoperability issues, which have become even more important after the September 11, 2001 terrorist attacks, must be addressed in any public safety communications plan.**

It is hard to see how Nextel's proposal will dramatically help public safety agencies achieve interoperability. Nextel's plan does not provide for large-scale replacement of public safety radios. This step is critical to create interoperable communications systems, as the current units operate in widely divergent manners. Without replacing radios, Nextel's plan is merely a shifting of spectrum assignments, without allocating additional spectrum or resources for interoperability needs.

If local governments and public safety departments are going to spend millions of dollars upgrading their communications systems to deal with Nextel's interference, it would be prudent to include interoperability considerations, rather than taking separate courses of actions on the two problems.

Costs of Interoperability Considerable

⁴ "Nextel Says Compromise Won't Work, FCC Considers Swap of Different Spectrum," The Washington Post, May 12, 2004.

The cost of creating interoperable communications systems between state, local, and federal public safety agencies to respond to emergencies, natural disasters, or terrorist attacks is estimated to be \$18.3 billion to replace communications equipment and network infrastructure.⁵ The state of Rhode Island alone has estimated it will need about \$57 million to create an interoperable state-wide system. At a micro level, the modern “walkie-talkie” used by public safety departments can cost up to \$2,000 each.⁶

There are more than 20,000 cities and counties in the United States, and thousands of other local jurisdictions. In 2003, there were over 2.5 million public safety first responders in the United States, but no uniform standards exist to govern their communications.⁷ Ranging from large metropolitan areas to rural towns with less than one thousand people, the uniting factor is the need for the communications systems in these areas to be compatible. The events of September 11th necessitated a new approach to homeland security and public safety in America. No longer can public safety departments afford to operate independent from one another; information sharing is critical to both prevent and respond to possible terrorist attacks and other emergency situations.

Federal Funding for Interoperability Lacking

President George W. Bush promised \$3.5 billion to first responders in the wake of the September 11th terrorist attacks, including money for interoperable communications. However, approval of the promised federal funds has lagged. State and local governments, already pressed by budget shortfalls, have had to delay communications systems upgrades or fund them from limited taxpayer funds.

Funds from auctioning the frequencies at 1.9 GHz, which Nextel wants for free, could be used by the federal government to make good on its promise to help first responders across the nation to upgrade their communications systems.

Nextel’s “Consensus Plan” Is a Diversion, Not an Agreement

Nextel’s Consensus Plan has caused much disagreement among wireless providers, public safety departments, and policymakers. This is evidenced by the over two thousand filings submitted to the FCC in its open docket (WT 02-55) on this matter.

The interference problems caused by Nextel, and unresolved by Nextel’s plan, plague public safety departments across the country. In 2001, *The Oregonian* newspaper conducted an investigation that found Nextel was responsible for interference with public safety communications in 21 states.⁸ Examples include Scottsdale, Arizona, where twelve police officers stood within one hundred feet of each another and could not communicate using their

⁵ Public Safety Communications Funding Awareness Guide, Public Safety Wireless Network, available at <http://www.publicsafetywins.gov/PolicySolutions/Funding/CommFundAwareGuide.pdf>

⁶ State Government News, The Council of State Governments, May 2003.

⁷ Ibid.

⁸ “Emergency Calls Crowded Out,” *The Oregonian*, August 5, 2001.

radios as they searched for an armed suspect. In Portland, Oregon one of every three radio or computer transmissions encountered some form of interference over a two and half year period.⁹

Instead of resolving these issues with efficient responses based on the unique circumstances of each community, Nextel has offered the FCC a blanket remedy that does not provide sufficient funding for rebanding the spectrum used by public safety departments. Nextel offered the FCC \$700 million to fund the transition of public safety communications system, which would take place over approximately three years according to Nextel's estimates.

Nextel's Proposal Doesn't Make Adequate or Timely Funds Available

Given that a 1998 estimate placed the cost at \$18.3 billion to replace public safety communications equipment and network infrastructure nationwide,¹⁰ it is clear that Nextel has not allocated sufficient funds for the transition. There is a great deal of uncertainty regarding the exact cost of the transition; the divergent nature of the thousands of public safety departments involved make it difficult to craft any reliable estimate.

For example, the city of Fort Lauderdale, Florida estimated spectrum relocation would cost as much as a total communications system replacement, or roughly \$5 million to \$7 million. This is due to the fact that older equipment is not capable of being retuned and would require replacement.¹¹ Philadelphia, Pennsylvania installed a new citywide public safety communications system at a cost of \$52 million.¹² Anne Arundel County, Maryland upgraded its emergency communications system, at a cost of \$35 million, and then had to spend another \$200,000 to fix remaining interference problems caused by Nextel.¹³ These three jurisdictions alone could account for over \$90 million of the \$700 million Nextel would allocate for the transition.

Nextel has also not proposed a remedy if costs for rebanding the 800 MHz spectrum exceed the company's estimates. Public safety departments could be left in current spectrum assignments, still confronting interference problems, and local governments would be without funding when they could have already begun the upgrades in order to protect their first responders and citizens. Nextel proposes to have a Fund Administrator manage the \$700 million for public safety transition costs. But the mechanism unduly burdens local communities and could be unfair to certain populations. First, localities must complete the equipment upgrades and spectrum rebanding and then apply to the Administrator to receive funding from Nextel's commitment. This would force local governments to spend taxpayer money, with no guarantee of reimbursement, on a problem that is Nextel's responsibility to alleviate. There is also no timetable for the reimbursement of funds spent by local jurisdictions. Thus, while Nextel proposes to immediately receive the new spectrum at 1.9 GHz (and thus the commercial benefits

⁹ Ibid.

¹⁰ Public Safety Communications Funding Awareness Guide, Public Safety Wireless Network, available at <http://www.publicsafetywins.gov/PolicySolutions/Funding/CommFundAwareGuide.pdf>

¹¹ Comments of the City of Fort Lauderdale, WT Docket 02-55, May 3, 2002.

¹² Comments of the City of Philadelphia, WT Docket 02-55, February 10, 2003.

¹³ "Cell-Tower Detectives Fight Static" *Washington Post*, June 17, 2004, available at <http://www.washingtonpost.com/ac2/wp-dyn/A47852-2004Jun16?language=printer>

of offering new services), public safety departments and local governments would be forced to wait until Nextel's appointed Administrator decides to act on their funding requests.¹⁴

Finally, the Administrator must be "acceptable to Nextel"¹⁵ and there are no guarantees that the Administrator will be sensitive to the needs to underserved communities. There are no provisions to ensure rural, minority, low-income or other traditionally underserved communities receive sufficient funds in a timely fashion, if at all.

Nextel's Proposal "Locks In" Today's Technology

Another drawback to Nextel's plan is that it upgrades or provides communications equipment that may be obsolete as newer, more interoperable systems and standards are developed. The U.S. General Accounting Office (GAO) recognized this in a 2003 report, "Challenges in Achieving Interoperable Communications for First Responders." It notes:

As technology changes, it presents new problems and opportunities for achieving and maintaining effective interoperable communications. According to one official, in the 1980s, a method of voice transmission called "trunking" became available that allowed more efficient use of spectrum. However, three different and incompatible trunking technologies developed, and these systems are not interoperable. This official noted that as mobile data communications becomes more prevalent and new digital technologies are introduced, standards become more important.

In addition, new public safety mission requirements for video, imaging, and high speed data transfers, new and highly complex digital communications systems, and the use of commercial wireless systems, are potential sources of new interoperability problems.¹⁶

Advanced communications, including broadband networks and satellite global positioning systems (GPS), can greatly improve the ability of public safety departments to respond to emergencies. By focusing on a short-term solution, Nextel could force police, fire, and EMS departments to utilize current technology that may solve the interference problem today, but be useless tomorrow.

The First Response Plan

Any solution to the interference and interoperability problems faced by public safety departments must begin with sufficient funding. To deprive first responders of critical equipment because of financial shortfalls puts all Americans in danger and is wholly unacceptable.

The First Response Plan takes a responsible approach to funding the transition of public safety communications to interference free spectrum and equipment and addresses the need for these

¹⁴ Ex Parte Comments of United Telecom Council, WT Docket 02-55, August 7, 2003.

¹⁵ Supplemental Comments of the Consensus Parties, WT Docket 02-55, December 24, 2002.

¹⁶ Statement of William O. Jenkins, Jr., Director of Homeland Security and Justice Issues, before the House Subcommittee on the Government Reform Committee, November 6, 2003, available at <http://www.gao.gov/new.items/d04231t.pdf>.

systems to be interoperable. The Plan calls for a cutting edge nationwide public safety communications network that improves capabilities for all first responders, including those in rural and underserved communities and first responders of color.

Regarding the interference issue, Nextel should be responsible for resolving all instances where its signal overlaps with public safety communications. On a case-by-case basis, responding to the unique circumstances of each community, Nextel should collaborate with the public safety departments to craft solutions that eliminate the interference at no cost to the local jurisdiction.

Rather than relying on monies promised by Nextel (and to be administered by Nextel) for public safety communications upgrades, the First Response Plan calls for the auctioning of spectrum in the 1.9 GHz band. This valuable frequency is expected to solicit an opening bid of at least \$5 billion. The proceeds of this auction would be earmarked (by Congress) solely for use in upgrading public safety communications systems and equipment to ensure interoperability and non-interference.

With this funding, deployment of new communications systems and equipment must be swift. An accelerated regional deployment schedule will be followed, ensuring that the majority of public safety communications nationwide are upgraded by 2006. In developing the deployment schedule, priority will be given to rural and other underserved areas, providing these communities with the same technologies as those departments in urban and suburban areas.

While the \$5 billion in funding garnered from the spectrum auction will begin the transition process, it is likely that communities will have future communications needs that require additional appropriations. This could be particularly true in rural areas and other underserved and economically disadvantaged communities, where funds might not be available to ensure the communications equipment is upgraded as technology improves. The First Response Plan calls for low interest loans and guarantees to help these communities maintain the communications systems and provide their first responders with state-of-the-art systems that will help save lives.

A final drawback to Nextel's plan is its lack of attention to public safety communications in vulnerable communities – senior citizens, disabled person, and ethnically diverse population centers. Nextel's proposal could cause bypass these communities, leaving them with substandard communications technologies. The First Response Plan calls for the establishment of advisory panels to recommend funding and actions to ensure the needs of America's diverse communities are met. No two public safety departments are alike and all deserve equitable solutions so first responders are adequately prepared to protect their communities. The advisory panels will include input from communities of color, senior citizens and disability communities among others.

Conclusion

America's public safety departments must be given the best tools. The danger they confront on a daily basis cannot be taken lightly. The interference caused by Nextel must be met with an appropriate solution, not a piecemeal attempt that provides more benefit for those that caused the interference in the first place.

The First Response Plan provides a complete solution to the interference problem and appropriately addresses the issue of interoperability by:

- Holding Nextel responsible for all instances of interference it causes and ensuring the company works with local public safety departments to resolve the problems.
- Auctioning spectrum in the 1.9 GHz band and earmarking the proceeds for upgrading first responder communications systems.
- Developing an accelerated regional deployment schedule to ensure that public safety communications systems are upgraded by 2006.
- Providing low-interest loans and guarantees to assist underserved and economically-disadvantaged communities in obtaining the newest communications technologies.
- Establishing advisory panels to recommend solutions that adequately address the disparate needs of America's diverse communities.

The First Response Plan can protect our first responders and by doing so, protect all of us.